

**197**

**BOEING REALTY CORPORATION  
FORMER C-6 FACILITY  
LOS ANGELES, CALIFORNIA****TECHNICAL MEMORANDUM****IMPORT SOIL EVALUATION  
USE OF SOIL SOURCES F AND G AS IMPORT TO PARCEL C**

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**To:** Mr. Brian Mossman  
Boeing Realty Corporation  
3760 Kilroy Airport Way, Suite 500  
Long Beach, CA 90806

**From:** Haley & Aldrich, Inc.

**Date:** March 6, 2001

**Re:** Import Soil Evaluation, Use of Soil Sources F and G as Import to Parcel C, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Los Angeles, California

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Haley & Aldrich, Inc. is herein providing this technical memorandum to summarize our recommendations regarding use of two identified potential import soil sources, herein referred to as Sources F and G, as import to Parcel C of the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (subject parcel).

**OVERVIEW/PURPOSE**

Two sources of soil, totaling up to approximately 9,000 cubic yards, have been identified as potential import soil for use on Parcel C. Kennedy Jenks Consultants (K/J) collected a soil sample from each of these sources and tested these samples in accordance with the protocol presented in the December 11, 2000 Import Soil Screening Program Plan prepared for Parcel C. This plan has been used as guidance to evaluate import soil from "offsite" sources. The criteria presented in the plan were then compared to the analytical results of the soil samples. The purpose of this technical memorandum is to present a summary of the import soil evaluation of the Sources F and G soils and to provide recommendations for use as import for Parcel C.

**LOCATION OF PROPOSED SOURCES F AND G IMPORT SOIL**

The Source F potential import soil comprises between 4,000 and 5,000 cubic yards. Source F soil originated from a property situated at 166<sup>th</sup> and Falda in Torrance, California. It is understood through conversations with Mr. Scott Tredick of Viking Equipment Company that the Source F property has historically been developed for residential use and is currently being redeveloped for residential purposes.

The Source G potential import soil comprises approximately 4,000 cubic yards. Source G soil originated from residential property situated on Ocean Boulevard between the Pacific Coast Highway and Lomita in Torrance, California. The soil was excavated to allow for the construction of a sidewalk along Ocean Boulevard.

## COMPARISON OF ANALYTICAL RESULTS TO IMPORT SOIL GUIDANCE CRITERIA

The laboratory report for the soil samples collected from the subject potential import soils is presented as Attachment 1. Each sample was tested for metals, and various organic chemicals, including total petroleum hydrocarbons, polynuclear aromatic hydrocarbons, and volatile organic hydrocarbons. A review of the laboratory results indicates that the organic chemical results are within the import soil evaluation criteria presented in the December 11, 2000 Import Soil Screening Program Plan. A summary of the detected organic compounds and their associated soil import criteria are presented in Table 1. The remaining organic compounds analyzed for were not detected, and their detection limits are within the soil import criteria.

**Table 1. Summary of Detected Organic Results and Associated Import Soil Criteria**

Sample Identification	Chemical	Reported Concentration (mg/kg)	Import Soil Criterion (mg/kg)
SOURCE F_02_14_01_1	Total petroleum hydrocarbons (C18-C40+)	25	< 10 – 5,000
SOURCE G_02_14_01_1	Total petroleum hydrocarbons (C24-C31)	310	< 10 – 5,000
	1,2-Dichloroethane	0.001	< 0.005 – 206
	Anthracene	0.0036	< 0.008 – 4,060
	Benzo(a)anthracene	0.073	< 0.016 – 11.4
	Benzo(a)pyrene	0.036	< 0.004 – 1.14
	Benzo(b)fluoranthene	0.035	< 0.004 – 11.4
	Fluoranthene	0.020	< 0.020 – 6,970

Several of the metals results are greater than the criteria, but are within the reported southern California background literature values. A summary of these metals results is presented in Table 2. The remaining metals analyzed for are within the import soil criteria.

**Table 2. Summary of Metals Results Greater Than Import Soil Criteria and Associated Import Soil Criteria and Regional Background Concentrations**

Sample Identification	Chemical	Reported Concentration (mg/kg)	Import Soil Criterion (mg/kg)	Southern California Background (mg/kg)
SOURCE F_02_14_01_1	Barium	184	135	23 – 560
	Beryllium	0.56	< 0.5	< 0.1 – 1.2
	Cadmium	0.58	< 0.5	0.05 – 1.45
	Cobalt	10.7	9.4	1.6 – 23.2
	Copper	43.4	20	3.8 – 54
	Lead	8.4	8	2.5 – 189.4
	Vanadium	45.8	38	18 – 84.8
	Zinc	68.6	64	10.3 – 247
SOURCE G_02_14_01_1	Barium	200	135	23 – 560
	Beryllium	0.61	< 0.5	< 0.1 – 1.2
	Cadmium	0.71	< 0.5	0.05 – 1.45
	Cobalt	12.4	9.4	1.6 – 23.2
	Copper	59.9	20	3.8 – 54
	Vanadium	53.3	38	18 – 84.8
	Zinc	80.2	64	10.3 – 247

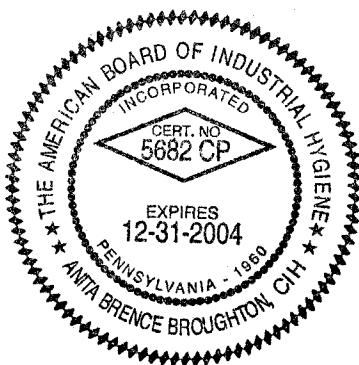
## RECOMMENDATIONS FOR USE AS IMPORT SOIL

It is recommended that the subject approximately 9,000 cubic yards of soil comprising Sources F and G be used as fill soil on Parcel C. Even though various metals results did not meet the soil import guidance criteria, the reported soil concentrations are within the southern California background literature values. These background values are considered to be representative of the general geographic region from which the Sources F and G import soils originated, and are not considered to be a result of chemical contamination.

Sincerely yours,  
HALEY & ALDRICH, INC.

  
Anita Broughton  
Risk Assessment Task Manager

  
Scott Zachary  
Project Manager



### Attachments:

Appendix A    Laboratory Report

Appendix A

**APPENDIX A**  
**LABORATORY REPORT**

FEB 28'01 14:46 FR STL LOS ANGELES

714 258 2517 TO 16195957056

P.01/55

(619) 595-7056

## **ANALYTICAL REPORT**

**PROJECT NO. HARBOR GATEWAY**

**Boeing Parcel C; C-6 (Torrance)**

**Lot #: E1B160288**

Frank Haray  
Anita

**SEVERN TRENT LABORATORIES, INC.**

**Diane Suzuki  
Project Manager**

**February 28, 2001**

**BOE-C6-0232121**

## SEVERN TRENT LABORATORIES

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## CHAIN OF CUSTODY RECORD

No. 2033084

CUSTOMER INFORMATION

RUSH TURNAROUND MAY REQUIRE SURCHARGE

## SEVEN TREAT LABORATORIES

**LINEU LABORATORY**  
1721 South Grand Avenue

Phone: (714) 258-8610 / Fax: (714) 258-0921  
Santa Ana, CA 92705

**STL - LOS ANGELES**  
**PROJECT RECEIPT CHECKLIST**

Quantum Lot #: EIB 160288Client Name: Kennedy JenkinsReceived by: MDelivered by:  Client  Airborne  FedEx  
 UPS  DES  Other CourierDate: 02/16/01

Quote #:

Project: Boeing C-CDate/Time Received: 02/16/01 02 1400 DHL  Ultra-Ex  Ray B.Custody Seal Status:  Intact  Broken  None AB 12/16/01 No Seal #

Custody Seal #(s):

Sample Container(s):  STL-LA  Client  N/ATemperature(s) (COOLER/BLANK) in °C: 18°C (CORRECTED TEMP)Thermometer Used:  IR (Infra-red)  Digital (Probe)Samples:  Intact  Broken  OtherAnomalies:  No  Yes (See Clouseau)

Labeled by .....

Labeling checked by .....

Turn Around Time:  RUSH-24HR  RUSH-48HR  RUSH-72HR  NORMALShort-Hold Notification:  Ph  Wet Chem  Metals (Filter/Pres)  Encore  N/AOutside Analysis(es) (Test/Lab/Date Sent Out):  
.....  
.....  
.....  
.....  
.....

\*\*\*\*\* LEAVE NO BLANK SPACES; USE N/A \*\*\*\*\*

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**EXECUTIVE SUMMARY - Detection Highlights**

E1B160288

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>SOURCE F_02_14_01_1 02/14/01 15:30 001</b>				
C24-C27	5.3 J	10	mg/kg	SW846 8015B
C28-C31	51.2 J	10	mg/kg	SW846 8015B
Total Carbon Chain Range	25	10	mg/kg	SW846 8015B
Mercury	0.023 B	0.10	mg/kg	SW846 7471A
Aluminum	19500	20.0	mg/kg	SW846 6010B
Arsenic	3.4	1.0	mg/kg	SW846 6010B
Barium	184	2.0	mg/kg	SW846 6010B
Cadmium	0.58	0.50	mg/kg	SW846 6010B
Chromium	22.9	1.0	mg/kg	SW846 6010B
Beryllium	0.56	0.50	mg/kg	SW846 6010B
Lead	8.4	0.50	mg/kg	SW846 6010B
Cobalt	10.7	5.0	mg/kg	SW846 6010B
Copper	43.4	2.5	mg/kg	SW846 6010B
Molybdenum	0.49 B	4.0	mg/kg	SW846 6010B
Nickel	16.2	4.0	mg/kg	SW846 6010B
Vanadium	45.8	5.0	mg/kg	SW846 6010B
Zinc	68.6	2.0	mg/kg	SW846 6010B
<b>SOURCE G_02_14_01_1 02/14/01 16:15 002</b>				
C18-C19	5.2 J	10	mg/kg	SW846 8015B
C20-C23	9.1 J	10	mg/kg	SW846 8015B
C24-C27	19	10	mg/kg	SW846 8015B
C28-C31	44	10	mg/kg	SW846 8015B
C32-C35	49	10	mg/kg	SW846 8015B
C36-C39	51	10	mg/kg	SW846 8015B
C40+	120	10	mg/kg	SW846 8015B
Total Carbon Chain Range	310	10	mg/kg	SW846 8015B
Anthracene	3.6 J	16	ug/kg	SW846 8310
Benzo(a)anthracene	73	32	ug/kg	SW846 8310
Benzo(a)pyrene	36	20	ug/kg	SW846 8310
Benzo(b)fluoranthene	35	8.0	ug/kg	SW846 8310
Fluoranthene	20 J	40	ug/kg	SW846 8310
Mercury	0.098 B	0.10	mg/kg	SW846 7471A
Aluminum	21900	20.0	mg/kg	SW846 6010B
Arsenic	3.8	1.0	mg/kg	SW846 6010B
Barium	200	2.0	mg/kg	SW846 6010B
Cadmium	0.71	0.50	mg/kg	SW846 6010B
Chromium	24.4	1.0	mg/kg	SW846 6010B
Beryllium	0.61	0.50	mg/kg	SW846 6010B
Lead	7.9	0.50	mg/kg	SW846 6010B
Cobalt	12.4	5.0	mg/kg	SW846 6010B
Copper	59.9	2.5	mg/kg	SW846 6010B

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**EXECUTIVE SUMMARY - Detection Highlights**

E1B160288

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>SOURCE G_02_14_01_1 02/14/01 16:15 002</b>				
Molybdenum	0.47 B	4.0	mg/kg	SW846 6010B
Nickel	17.6	4.0	mg/kg	SW846 6010B
Vanadium	53.3	5.0	mg/kg	SW846 6010B
Zinc	80.2	2.0	mg/kg	SW846 6010B
1,2-Dichloroethane	1.0 J	5.0	ug/kg	SW846 8260B

**METHODS SUMMARY**

KIB160288

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Extractable Petroleum Hydrocarbons	SW846 8015B	SANA AUTO-SHAKE
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Polynuclear Aromatic Hydrocarbons by HPLC	SW846 8310	SW846 3550
Volatile Organics by GC/MS	SW846 8260B	SW846 5030
Volatile Petroleum Hydrocarbons	SW846 8015B	SW846 5030

**References:**

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

**SAMPLE SUMMARY**

E1B160288

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
DV9F1	001	SOURCE F_02_14_01_1	02/14/01	15:30
DV9F9	002	SOURCE G_02_14_01_1	02/14/01	16:15

**NOTE(S) :**

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## GC Semivolatiles

Lot-Sample #....: ELB160288-001 Work Order #....: DV9F11AC Matrix.....: SOLID  
 Date Sampled....: 02/14/01 15:30 Date Received...: 02/16/01 14:10 MS Run #.....: 1047232  
 Prep Date.....: 02/16/01 Analysis Date...: 02/19/01  
 Prep Batch #....: 1047422 Analysis Time...: 11:54  
 Dilution Factor: 1  
 Analyst ID.....: 356074 Instrument ID...: G01  
 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	5.3 J	10	mg/kg	5.0
C28-C31	5.2 J	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	25	10	mg/kg	5.0

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
		(60 - 130)	
Benzo(a)pyrene	86		

NOTE(S) :

J Estimated result. Result is less than RL.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## GC Volatiles

Lot-Sample #....: E1B160288-001 Work Order #....: DV9F11AD Matrix.....: SOLID  
Date Sampled....: 02/14/01 15:30 Date Received...: 02/16/01 14:10 MS Run #.....: 1051151  
Prep Date.....: 02/19/01 Analysis Date...: 02/19/01  
Prep Batch #....: 1051278 Analysis Time...: 11:23  
Dilution Factor: 1  
Analyst ID.....: 001464 Instrument ID...: G16  
Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		MDL
		LIMIT	UNITS	
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene (TFT)	RECOVERY	(60 - 130)		
	84			

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## GC/MS Volatiles

Lot-Sample #....: E1B160288-001 Work Order #....: DV9F11AA Matrix.....: SOLID  
 Date Sampled...: 02/14/01 15:30 Date Received...: 02/16/01 14:10 MS Run #.....: 1050291  
 Prep Date.....: 02/16/01 Analysis Date...: 02/16/01  
 Prep Batch #....: 1050518 Analysis Time...: 22:21  
 Dilution Factor: 1  
 Analyst ID.....: 015590

Instrument ID...: MSG  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	10	ug/kg	1.0
Chloromethane	ND	10	ug/kg	3.0
Vinyl chloride	ND	10	ug/kg	2.0
Bromomethane	ND	10	ug/kg	2.0
Chloroethane	ND	10	ug/kg	2.0
Trichlorofluoromethane	ND	10	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	10	ug/kg	5.0
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	2.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	50	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	10	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromoform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	10
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	ND	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	10	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0

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## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## GC/MS Volatiles

Lot-Sample #....: E1B160288-001 Work Order #....: DV9F11AA Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	5.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
<u>SURROGATE</u>		<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	
Bromofluorobenzene	105	(70 - 130)		
1,2-Dichloroethane-d4	86	(60 - 140)		
Toluene-d8	90	(70 - 130)		

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## HPLC

Lot-Sample #....: E1B160288-001 Work Order #....: DV9F11A1 Matrix.....: SOLID  
 Date Sampled....: 02/14/01 15:30 Date Received...: 02/16/01 14:10 MS Run #.....:  
 Prep Date.....: 02/19/01 Analysis Date...: 02/27/01  
 Prep Batch #....: 1050301 Analysis Time...: 12:07  
 Dilution Factor: 1  
 Analyst ID.....: 057134 Instrument ID...: LC7  
 Method.....: SW846 8310

<u>PARAMETER</u>	<u>REPORTING</u>			
	<u>RESULT</u>	<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acenaphthene	ND	400	ug/kg	63
Acenaphthylene	ND	200	ug/kg	46
Anthracene	ND	8.0	ug/kg	1.1
Benzo(a)anthracene	ND	16	ug/kg	1.7
Benzo(a)pyrene	ND	10	ug/kg	3.1
Benzo(b)fluoranthene	ND	4.0	ug/kg	2.4
Benzo(ghi)perylene	ND	16	ug/kg	3.1
Benzo(k)fluoranthene	ND	4.0	ug/kg	1.1
Chrysene	ND	20	ug/kg	14
Dibenz(a,h)anthracene	ND	40	ug/kg	9.2
Fluoranthene	ND	20	ug/kg	4.8
Fluorene	ND	40	ug/kg	6.7
Indeno(1,2,3-cd)pyrene	ND	20	ug/kg	3.1
Naphthalene	ND	200	ug/kg	23
Phenanthrene	ND	16	ug/kg	2.6
Pyrene	ND	40	ug/kg	11
<u>SURROGATE</u>	<u>PERCENT</u>		<u>RECOVERY</u>	
	<u>RECOVERY</u>		<u>LIMITS</u>	
1-Methylnaphthalene	50		(41 - 115)	

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## GC Semivolatiles

Lot-Sample #...: E1B160288-002 Work Order #...: DV9F91AE Matrix.....: SOLID  
 Date Sampled...: 02/14/01 16:15 Date Received...: 02/16/01 14:10 MS Run #....: 1047232  
 Prep Date.....: 02/16/01 Analysis Date...: 02/19/01  
 Prep Batch #...: 1047422 Analysis Time...: 12:24  
 Dilution Factor: 1  
 Analyst ID.....: 356074 Instrument ID...: G01  
 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	5.2 J	10	mg/kg	5.0
C20-C23	9.1 J	10	mg/kg	5.0
C24-C27	19	10	mg/kg	5.0
C28-C31	44	10	mg/kg	5.0
C32-C35	49	10	mg/kg	5.0
C36-C39	51	10	mg/kg	5.0
C40+	120	10	mg/kg	5.0
Total Carbon Chain Range	310	10	mg/kg	5.0

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Benzo (a) pyrene	80	(60 - 130)

NOTE (S) :

J Estimated result. Result is less than RL.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## GC Volatiles

Lot-Sample #....: E1B160288-002 Work Order #....: DV9F91AF Matrix.....: SOLID  
Date Sampled....: 02/14/01 16:15 Date Received...: 02/16/01 14:10 MS Run #.....: 1051151  
Prep Date.....: 02/19/01 Analysis Date...: 02/19/01  
Prep Batch #....: 1051278 Analysis Time...: 11:52  
Dilution Factor: 1  
Analyst ID.....: 001464 Instrument ID...: G16  
Method.....: SW846 8015B

## REPORTING

PARAMETER	RESULT	LIMIT	UNITS	MDL
C6-CB	ND	1.0	mg/kg	0.10

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
a,a,a-Trifluorotoluene (TFT)	86	(60 - 130)

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## GC/MS Volatiles

Lot-Sample #....: E1B160288-002 Work Order #....: DV9F91AD Matrix.....: SOLID  
 Date Sampled...: 02/14/01 16:15 Date Received...: 02/16/01 14:10 MS Run #....: 1050291  
 Prep Date.....: 02/16/01 Analysis Date...: 02/16/01  
 Prep Batch #....: 1050518 Analysis Time...: 20:00  
 Dilution Factor: 1  
 Analyst ID.....: 015590

Instrument ID...: MSG  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Dichlorodifluoromethane	ND	10	ug/kg	1.0
Chloromethane	ND	10	ug/kg	3.0
Vinyl chloride	ND	10	ug/kg	2.0
Bromomethane	ND	10	ug/kg	2.0
Chloroethane	ND	10	ug/kg	2.0
Trichlorofluoromethane	ND	10	ug/kg	2.0
Acrolein	ND	100	ug/kg	30
1,1-Dichloroethene	ND	5.0	ug/kg	2.0
Iodomethane	ND	10	ug/kg	5.0
Acetone	ND	25	ug/kg	15
Carbon disulfide	ND	5.0	ug/kg	2.0
Methylene chloride	ND	5.0	ug/kg	3.0
trans-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
Acrylonitrile	ND	50	ug/kg	30
Methyl tert-butyl ether	ND	5.0	ug/kg	1.0
1,1-Dichloroethane	ND	5.0	ug/kg	1.0
Vinyl acetate	ND	10	ug/kg	5.0
2,2-Dichloropropane	ND	5.0	ug/kg	2.0
cis-1,2-Dichloroethene	ND	5.0	ug/kg	2.0
2-Butanone	ND	25	ug/kg	15
Bromochloromethane	ND	5.0	ug/kg	1.0
Chloroform	ND	5.0	ug/kg	1.0
Tetrahydrofuran	ND	20	ug/kg	10
1,1,1-Trichloroethane	ND	5.0	ug/kg	1.0
1,1-Dichloropropene	ND	5.0	ug/kg	1.0
Carbon tetrachloride	ND	5.0	ug/kg	1.0
Benzene	ND	5.0	ug/kg	2.0
1,2-Dichloroethane	1.0 J	5.0	ug/kg	1.0
Trichloroethene	ND	5.0	ug/kg	2.0
1,2-Dichloropropane	ND	5.0	ug/kg	1.0
Bromodichloromethane	ND	5.0	ug/kg	1.0
2-Chloroethyl vinyl ether	ND	10	ug/kg	5.0
cis-1,3-Dichloropropene	ND	5.0	ug/kg	1.0
4-Methyl-2-pentanone	ND	25	ug/kg	10
Toluene	ND	5.0	ug/kg	2.0
trans-1,3-Dichloropropene	ND	5.0	ug/kg	3.0
1,1,2-Trichloroethane	ND	5.0	ug/kg	3.0

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## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## GC/MS Volatiles

Lot-Sample #....: ELB160288-002 Work Order #....: DV9F91AD Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Tetrachloroethene	ND	5.0	ug/kg	2.0
2-Hexanone	ND	25	ug/kg	10
Dibromochloromethane	ND	5.0	ug/kg	5.0
1,2-Dibromoethane	ND	5.0	ug/kg	3.0
Chlorobenzene	ND	5.0	ug/kg	2.0
Ethylbenzene	ND	5.0	ug/kg	2.0
Xylenes (total)	ND	5.0	ug/kg	3.0
Styrene	ND	10	ug/kg	2.0
Bromoform	ND	5.0	ug/kg	3.0
Isopropylbenzene	ND	5.0	ug/kg	2.0
p-Isopropyltoluene	ND	5.0	ug/kg	2.0
Bromobenzene	ND	5.0	ug/kg	2.0
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	3.0
1,2,3-Trichloropropane	ND	5.0	ug/kg	3.0
n-Propylbenzene	ND	5.0	ug/kg	2.0
2-Chlorotoluene	ND	5.0	ug/kg	2.0
4-Chlorotoluene	ND	5.0	ug/kg	2.0
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	2.0
tert-Butylbenzene	ND	5.0	ug/kg	2.0
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	2.0
sec-Butylbenzene	ND	5.0	ug/kg	2.0
1,3-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,4-Dichlorobenzene	ND	5.0	ug/kg	2.0
1,2-Dichlorobenzene	ND	5.0	ug/kg	2.0
n-Butylbenzene	ND	5.0	ug/kg	2.0
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	3.0
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	2.0
Hexachlorobutadiene	ND	5.0	ug/kg	2.0
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	2.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene	110	(70 - 130)		
1,2-Dichloroethane-d4	89	(60 - 140)		
Toluene-d8	93	(70 - 130)		

NOTE(S) :

J Estimated result. Result is less than RL.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

HPLC

Lot-Sample #: E1B160288-002 Work Order #: DV9F91AC Matrix.....: SOLID  
 Date Sampled...: 02/14/01 16:15 Date Received.: 02/16/01 14:10 MS Run #: .....  
 Prep Date....: 02/19/01 Analysis Date.: 02/27/01  
 Prep Batch #: 1050301 Analysis Time.: 11:26  
 Dilution Factor: 2  
 Analyst ID....: 057134 Instrument ID...: LC7  
 Method.....: SW846 8310

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Acenaphthene	ND	800	ug/kg	130
Acenaphthylene	ND	400	ug/kg	92
Anthracene	3.6 J	16	ug/kg	2.2
Benzo(a)anthracene	73	32	ug/kg	3.4
Benzo(a)pyrene	36	20	ug/kg	6.2
Benzo(b)fluoranthene	35	8.0	ug/kg	4.8
Benzo(ghi)perylene	ND G	160	ug/kg	6.2
Benzo(k)fluoranthene	ND	8.0	ug/kg	2.2
Chrysene	ND	40	ug/kg	28
Dibenz(a, h)anthracene	ND	80	ug/kg	18
Fluoranthene	20 J	40	ug/kg	9.6
Fluorene	ND	80	ug/kg	13
Indeno(1, 2, 3-cd)pyrene	ND G	50	ug/kg	6.2
Naphthalene	ND	400	ug/kg	46
Phenanthrene	ND	32	ug/kg	5.2
Pyrene	ND	80	ug/kg	22
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
		<u>RECOVERY</u>	<u>LIMITS</u>	
1-Methylnaphthalene	66		(41 - 115)	

NOTE(S) :

J Estimated result. Result is less than RL.

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## TOTAL Metals

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING			<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
		<u>LIMIT</u>	<u>UNITS</u>	<u> </u>			
Prep Batch #...: E1B160288-001							Matrix.....: SOLID
Mercury	0.023 B	0.10	mg/kg		SW846 7471A	02/16-02/17/01 DV9F11AO	
		Dilution Factor: 1			Analysis Time...: 11:10	Analyst ID.....: 021088	
		Instrument ID...: M04			MS Run #.....: 1046229	MDL.....: 0.020	
Prep Batch #...: 1047263							
Aluminum	19500	20.0	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AB	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031199	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 8.0	
Arsenic	3.4	1.0	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AP	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.40	
Antimony	ND	6.0	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AG	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.20	
Barium	184	2.0	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AH	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.10	
Cadmium	0.58	0.50	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AJ	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.050	
Chromium	22.9	1.0	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AK	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.10	
Beryllium	0.56	0.50	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AL	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.050	
Lead	8.4	0.50	mg/kg		SW846 6010B	02/16-02/19/01 DV9F11AM	
		Dilution Factor: 1			Analysis Time...: 17:14	Analyst ID.....: 0031196	
		Instrument ID...: M01			MS Run #.....: 1047116	MDL.....: 0.30	

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## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE F\_02\_14\_01\_1

## TOTAL Metals

Lot-Sample #...: E1B160288-001

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING		METHOD	PREPARATION-	WORK	ORDER #
		LIMIT	UNITS				
Selenium	ND	0.50	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AN	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.40		
Silver	ND	1.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AP	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.10		
Cobalt	10.7	5.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AQ	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.10		
Copper	43.4	2.5	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AR	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.40		
Molybdenum	0.49 B	4.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AT	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.30		
Nickel	16.2	4.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AU	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.30		
Thallium	ND	1.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AV	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.50		
Vanadium	45.8	5.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AW	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 0.10		
Zinc	68.6	2.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9F11AX	
		Dilution Factor: 1		Analysis Time...: 17:14	Analyst ID.....: 0031196		
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....: 1.0		

NOTE(S) :

B Estimated result. Result is less than RL.

## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## TOTAL Metals

Lot-Sample #....: E1B160288-002

Date Sampled...: 02/14/01 16:15 Date Received...: 02/16/01 14:10

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 1046471						
Mercury	0.098 B	0.10	mg/kg	SW846 7471A	02/16-02/17/01	DV9P91AA
		Dilution Factor: 1		Analysis Time...: 11:12	Analyst ID.....:	021088
		Instrument ID...: M04		MS Run #.....: 1046229	MDL.....	: 0.020
Prep Batch #....: 1047263						
Aluminum	21900	20.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AG
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031199
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 8.0
Arsenic	3.8	1.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AH
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.40
Antimony	ND	6.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AJ
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.20
Barium	200	2.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AK
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.10
Cadmium	0.71	0.50	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AL
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.050
Chromium	24.4	1.0	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AM
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.10
Beryllium	0.61	0.50	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AN
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.050
Lead	7.9	0.50	mg/kg	SW846 6010B	02/16-02/19/01	DV9P91AP
		Dilution Factor: 1		Analysis Time...: 17:22	Analyst ID.....:	0031196
		Instrument ID...: M01		MS Run #.....: 1047116	MDL.....	: 0.30

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## KENNEDY/JENKS CONSULTANTS

Client Sample ID: SOURCE G\_02\_14\_01\_1

## TOTAL Metals

Lot-Sample #....: E1B160288-002

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION-	WORK	ANALYSIS DATE	ORDER #
		LIMIT	UNITS						
Selenium	ND	0.50	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AQ
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.40
Silver	ND	1.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AR
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.10
Cobalt	12.4	5.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AT
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.10
Copper	59.9	2.5	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AU
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.40
Molybdenum	0.47 B	4.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AV
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.30
Nickel	17.6	4.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AW
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.30
Thallium	ND	1.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91AX
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.50
Vanadium	53.3	5.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91A0
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 0.10
Zinc	80.2	2.0	mg/kg		SW846 6010B			02/16-02/19/01	DV9F91A1
		Dilution Factor: 1			Analysis Time...: 17:22				Analyst ID.....: 0031196
		Instrument ID...: M01			MS Run #.....: 1047116				MDL.....: 1.0

## NOTE(S) :

B Estimated result. Result is less than RL.

**QC DATA ASSOCIATION SUMMARY****E1B160288****Sample Preparation and Analysis Control Numbers**

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8015B		1047422	1047232
	SOLID	SW846 8015B		1051278	1051151
	SOLID	SW846 7471A		1046471	1046229
	SOLID	SW846 8260B		1050518	1050291
	SOLID	SW846 6010B		1047263	1047116
	SOLID	SW846 8310		1050301	
002	SOLID	SW846 8015B		1047422	1047232
	SOLID	SW846 8015B		1051278	1051151
	SOLID	SW846 7471A		1046471	1046229
	SOLID	SW846 8260B		1050518	1050291
	SOLID	SW846 6010B		1047263	1047116
	SOLID	SW846 8310		1050301	

## METHOD BLANK REPORT

## GC Semivolatiles

Client Lot #....: E1B160288      Work Order #....: DV9G51AA      Matrix.....: SOLID  
 MB Lot-Sample #: E1B160000-422      Prep Date.....: 02/16/01      Analysis Time...: 10:53  
 Analysis Date..: 02/19/01      Prep Batch#: 1047422      Instrument ID...: G01  
 Dilution Factor: 1      Analyst ID,...: 356074

<u>PARAMETER</u>	REPORTING			
	<u>RESULT</u>	<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
C8-C9	ND	10	mg/kg	SW846 8015B
C10-C11	ND	10	mg/kg	SW846 8015B
C12-C13	ND	10	mg/kg	SW846 8015B
C14-C15	ND	10	mg/kg	SW846 8015B
C16-C17	ND	10	mg/kg	SW846 8015B
C18-C19	ND	10	mg/kg	SW846 8015B
C20-C23	ND	10	mg/kg	SW846 8015B
C24-C27	ND	10	mg/kg	SW846 8015B
C28-C31	ND	10	mg/kg	SW846 8015B
C32-C35	ND	10	mg/kg	SW846 8015B
C36-C39	ND	10	mg/kg	SW846 8015B
C40+	ND	10	mg/kg	SW846 8015B
Total Carbon Chain Range	ND	10	mg/kg	SW846 8015B
<u>SURROGATE</u>				
<u>Benzo(a)pyrene</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
		RECOVERY	LIMITS	
		84	(60 - 130)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

## METHOD BLANK REPORT

## HPLC

Client Lot #...: E1B160288      Work Order #...: DWA1F1AA      Matrix.....: SOLID  
 MB Lot-Sample #: G1B190000-301  
 Analysis Date...: 02/27/01      Prep Date.....: 02/19/01      Analysis Time...: 10:46  
 Dilution Factor: 1      Prep Batch #: 1050301      Instrument ID...: LC7  
 Analyst ID.....: 057134

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
Acenaphthene	ND	400	ug/kg	SW846 8310
Acenaphthylene	ND	200	ug/kg	SW846 8310
Anthracene	ND	8.0	ug/kg	SW846 8310
Benzo(a)anthracene	ND	16	ug/kg	SW846 8310
Benzo(a)pyrene	ND	10	ug/kg	SW846 8310
Benzo(b)fluoranthene	ND	4.0	ug/kg	SW846 8310
Benzo(ghi)perylene	ND	16	ug/kg	SW846 8310
Benzo(k)fluoranthene	ND	4.0	ug/kg	SW846 8310
Chrysene	ND	20	ug/kg	SW846 8310
Dibenz(a,h)anthracene	ND	40	ug/kg	SW846 8310
Fluoranthene	ND	20	ug/kg	SW846 8310
Fluorene	ND	40	ug/kg	SW846 8310
Indeno(1, 2, 3-cd)pyrene	ND	20	ug/kg	SW846 8310
Naphthalene	ND	200	ug/kg	SW846 8310
Phenanthrene	ND	16	ug/kg	SW846 8310
Pyrene	ND	40	ug/kg	SW846 8310
<hr/>				
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
1-Methylnaphthalene		RECOVERY	<u>LIMITS</u>	
		50	(41 - 115)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

## METHOD BLANK REPORT

## GC/MS Volatiles

Client Lot #....: E1B160288      Work Order #....: DWCH31AA      Matrix.....: SOLID  
 MB Lot-Sample #: E1B190000-518  
 Analysis Date...: 02/16/01      Prep Date.....: 02/16/01      Analysis Time...: 18:14  
 Dilution Factor: 1      Prep Batch #: 1050518      Instrument ID...: MSG  
 Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Dichlorodifluoromethane	ND	10	ug/kg	SW846 8260B
Chloromethane	ND	10	ug/kg	SW846 8260B
Vinyl chloride	ND	10	ug/kg	SW846 8260B
Bromomethane	ND	10	ug/kg	SW846 8260B
Chloroethane	ND	10	ug/kg	SW846 8260B
Trichlorofluoromethane	ND	10	ug/kg	SW846 8260B
Acrolein	ND	100	ug/kg	SW846 8260B
1,1-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Iodomethane	ND	10	ug/kg	SW846 8260B
Acetone	ND	25	ug/kg	SW846 8260B
Carbon disulfide	ND	5.0	ug/kg	SW846 8260B
Methylene chloride	ND	5.0	ug/kg	SW846 8260B
trans-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
Acrylonitrile	ND	50	ug/kg	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Vinyl acetate	ND	10	ug/kg	SW846 8260B
2,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
cis-1,2-Dichloroethene	ND	5.0	ug/kg	SW846 8260B
2-Butanone	ND	25	ug/kg	SW846 8260B
Bromochloromethane	ND	5.0	ug/kg	SW846 8260B
Chloroform	ND	5.0	ug/kg	SW846 8260B
Tetrahydrofuran	ND	20	ug/kg	SW846 8260B
1,1,1-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
1,1-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
Carbon tetrachloride	ND	5.0	ug/kg	SW846 8260B
Benzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloroethane	ND	5.0	ug/kg	SW846 8260B
Trichloroethene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichloropropane	ND	5.0	ug/kg	SW846 8260B
Bromodichloromethane	ND	5.0	ug/kg	SW846 8260B
2-Chloroethyl vinyl ether	ND	10	ug/kg	SW846 8260B
cis-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
4-Methyl-2-pentanone	ND	25	ug/kg	SW846 8260B
Toluene	ND	5.0	ug/kg	SW846 8260B
trans-1,3-Dichloropropene	ND	5.0	ug/kg	SW846 8260B
1,1,2-Trichloroethane	ND	5.0	ug/kg	SW846 8260B
Tetrachloroethene	ND	5.0	ug/kg	SW846 8260B
2-Hexanone	ND	25	ug/kg	SW846 8260B
Dibromochloromethane	ND	5.0	ug/kg	SW846 8260B

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## METHOD BLANK REPORT

## GC/MS Volatiles

Client Lot #...: E1B160288

Work Order #...: DWCH31AA

Matrix.....: SOLID

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2-Dibromoethane	ND	5.0	ug/kg	SW846 8260B
Chlorobenzene	ND	5.0	ug/kg	SW846 8260B
Ethylbenzene	ND	5.0	ug/kg	SW846 8260B
Xylenes (total)	ND	5.0	ug/kg	SW846 8260B
Styrene	ND	10	ug/kg	SW846 8260B
Bromoform	ND	5.0	ug/kg	SW846 8260B
Isopropylbenzene	ND	5.0	ug/kg	SW846 8260B
p-Isopropyltoluene	ND	5.0	ug/kg	SW846 8260B
Bromobenzene	ND	5.0	ug/kg	SW846 8260B
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	5.0	ug/kg	SW846 8260B
1,2,3-Trichloropropane	ND	5.0	ug/kg	SW846 8260B
n-Propylbenzene	ND	5.0	ug/kg	SW846 8260B
2-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
4-Chlorotoluene	ND	5.0	ug/kg	SW846 8260B
1,3,5-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B
tert-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,2,4-Trimethylbenzene	ND	5.0	ug/kg	SW846 8260B
sec-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,3-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,4-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dichlorobenzene	ND	5.0	ug/kg	SW846 8260B
n-Butylbenzene	ND	5.0	ug/kg	SW846 8260B
1,2-Dibromo-3-chloro-propane	ND	10	ug/kg	SW846 8260B
1,2,4-Trichloro-benzene	ND	5.0	ug/kg	SW846 8260B
Hexachlorobutadiene	ND	5.0	ug/kg	SW846 8260B
1,2,3-Trichlorobenzene	ND	5.0	ug/kg	SW846 8260B
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>	
		<u>RECOVERY</u>	<u>LIMITS</u>	
Bromofluorobenzene	110	(70 - 130)		
1,2-Dichloroethane-d4	81	(60 - 140)		
Toluene-d8	95	(70 - 130)		

## NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

**METHOD BLANK REPORT****GC Volatiles**

Client Lot #....: E1B160288      Work Order #....: DWDH61AA      Matrix.....: SOLID  
MB Lot-Sample #: E1B200000-278      Prep Date.....: 02/19/01      Analysis Time...: 10:55  
Analysis Date...: 02/19/01      Prep Batch #: 1051278      Instrument ID...: G16  
Dilution Factor: 1      Analyst ID:....: 001464

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
C6-C8	ND	1.0	mg/kg	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	(60 - 130)	
a,a,a-Trifluorotoluene (TFT)	78			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

## METHOD BLANK REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Mercury	ND	0.10	mg/kg	SW846 7471A Dilution Factor: 1 Analysis Time... 10:30	02/16-02/17/01	DV7PT1AA Instrument ID...: M04
Aluminum	ND	20.0	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AA Instrument ID...: M01
Arsenic	ND	1.0	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AC Instrument ID...: M01
Antimony	ND	6.0	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AD Instrument ID...: M01
Barium	ND	2.0	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AE Instrument ID...: M01
Cadmium	ND	0.50	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AF Instrument ID...: M01
Chromium	0.12 B	1.0	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AG Instrument ID...: M01
Beryllium	ND	0.50	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AH Instrument ID...: M01
Lead	ND	0.50	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AJ Instrument ID...: M01
Selenium	ND	0.50	mg/kg	SW846 6010B Dilution Factor: 1 Analysis Time... 17:00	02/16-02/19/01	DV8G41AK Instrument ID...: M01

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## METHOD BLANK REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

PARAMETER	RESULT	REPORTING			METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
		LIMIT	UNITS				
Silver	ND	1.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AL
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	ND	5.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AM
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Copper	ND	2.5	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AN
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Molybdenum	ND	4.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AP
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Nickel	ND	4.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AQ
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Thallium	ND	1.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AR
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Vanadium	ND	5.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AT
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	
Zinc	ND	2.0	mg/kg		SW846 6010B	02/16-02/19/01	DV8G41AU
		Dilution Factor: 1					
		Analysis Time...: 17:00			Analyst ID.....: 003119	Instrument ID...: M01	

## NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

## LABORATORY CONTROL SAMPLE DATA REPORT

## HPLC

Client Lot #....: E1B160288      Work Order #....: DWA1F1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: G1B190000-301      DWA1F1AD-LCSD  
 Prep Date.....: 02/19/01      Analysis Date...: 02/27/01  
 Prep Batch #....: 1050301      Analysis Time...: 16:39  
 Dilution Factor: 1      Instrument ID...: LC7  
 Analyst ID.....: 057134

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>		<u>PERCENT</u>	<u>RPD</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>		
Acenaphthene	1330	971	ug/kg	73	0.35	SW846 8310
	1330	967	ug/kg	73		SW846 8310
Acenaphthylene	667	436	ug/kg	65		SW846 8310
	667	483	ug/kg	72	10	SW846 8310
Anthracene	26.6	17.6	ug/kg	66		SW846 8310
	26.6	19.8	ug/kg	74	12	SW846 8310
Benzo(a)anthracene	66.7	55.1	ug/kg	83		SW846 8310
	66.7	57.3	ug/kg	86	4.0	SW846 8310
Benzo(a)pyrene	66.7	44.0	ug/kg	66		SW846 8310
	66.7	53.6	ug/kg	80	20	SW846 8310
Benzo(b)fluoranthene	26.6	21.5	ug/kg	81		SW846 8310
	26.6	23.0	ug/kg	86	6.5	SW846 8310
Benzo(ghi)perylene	106	86.8	ug/kg	82		SW846 8310
	106	91.9	ug/kg	86	5.7	SW846 8310
Benzo(k)fluoranthene	26.6	20.6	ug/kg	77		SW846 8310
	26.6	22.1	ug/kg	83	7.0	SW846 8310
Chrysene	66.7	53.2	ug/kg	80		SW846 8310
	66.7	57.5	ug/kg	86	7.7	SW846 8310
Dibenz(a,h)anthracene	266	207	ug/kg	78		SW846 8310
	266	215	ug/kg	81	4.0	SW846 8310
Fluoranthene	66.7	53.6	ug/kg	80		SW846 8310
	66.7	55.7	ug/kg	84	3.8	SW846 8310
Fluorene	133	97.8	ug/kg	74		SW846 8310
	133	96.9	ug/kg	73	0.93	SW846 8310
Indeno(1,2,3-cd)pyrene	66.7	52.8	ug/kg	79		SW846 8310
	66.7	57.2	ug/kg	86	7.9	SW846 8310
Naphthalene	667	460	ug/kg	69		SW846 8310
	667	467	ug/kg	70	1.5	SW846 8310
Phenanthrene	53.2	41.0	ug/kg	77		SW846 8310
	53.2	41.2	ug/kg	77	0.50	SW846 8310
Pyrene	133	110	ug/kg	82		SW846 8310
	133	113	ug/kg	85	3.1	SW846 8310

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>LIMITS</u>
	<u>RECOVERY</u>		
1-Methylnaphthalene	68	(41 - 115)	
	67	(41 - 115)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## HPLC

Client Lot #....: E1B160288      Work Order #....: DWALF1AC-LCS      Matrix.....: SOLID  
 LCS Lot-Sample#: G1B190000-301      DWALF1AD-LCSD  
 Prep Date.....: 02/19/01      Analysis Date...: 02/27/01  
 Prep Batch #....: 1050301      Analysis Time..: 18:39  
 Dilution Factor: 1      Instrument ID...: LC7  
 Analyst ID.....: 057134

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>		<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
		<u>LIMITS</u>	<u>RPD</u>			
Acenaphthene	73	(50 - 150)			(0-50)	SW846 8310
	73	(50 - 150)	0.35		(0-50)	SW846 8310
Acenaphthylene	65	(50 - 150)			(0-50)	SW846 8310
	72	(50 - 150)	10		(0-50)	SW846 8310
Anthracene	66	(50 - 150)			(0-50)	SW846 8310
	74	(50 - 150)	12		(0-50)	SW846 8310
Benzo (a) anthracene	83	(50 - 150)			(0-50)	SW846 8310
	86	(50 - 150)	4.0		(0-50)	SW846 8310
Benzo (a)pyrene	66	(49 - 107)			(0-53)	SW846 8310
	80	(49 - 107)	20		(0-53)	SW846 8310
Benzo (b) fluoranthene	81	(50 - 150)			(0-50)	SW846 8310
	86	(50 - 150)	6.5		(0-50)	SW846 8310
Benzo (ghi)perylene	82	(50 - 150)			(0-50)	SW846 8310
	86	(50 - 150)	5.7		(0-50)	SW846 8310
Benzo (k) fluoranthene	77	(50 - 150)			(0-50)	SW846 8310
	83	(50 - 150)	7.0		(0-50)	SW846 8310
Chrysene	80	(50 - 150)			(0-50)	SW846 8310
	86	(50 - 150)	7.7		(0-50)	SW846 8310
Dibenz (a, h) anthracene	78	(50 - 150)			(0-50)	SW846 8310
	81	(50 - 150)	4.0		(0-50)	SW846 8310
Fluoranthene	80	(50 - 150)			(0-50)	SW846 8310
	84	(50 - 150)	3.8		(0-50)	SW846 8310
Fluorene	74	(43 - 112)			(0-56)	SW846 8310
	73	(43 - 112)	0.93		(0-56)	SW846 8310
Indeno (1,2,3-cd)pyrene	79	(54 - 114)			(0-51)	SW846 8310
	86	(54 - 114)	7.9		(0-51)	SW846 8310
Naphthalene	69	(44 - 110)			(0-50)	SW846 8310
	70	(44 - 110)	1.5		(0-50)	SW846 8310
Phenanthrene	77	(50 - 150)			(0-50)	SW846 8310
	77	(50 - 150)	0.50		(0-50)	SW846 8310
Pyrene	82	(49 - 115)			(0-54)	SW846 8310
	85	(49 - 115)	3.1		(0-54)	SW846 8310

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY</u>	
		<u>LIMITS</u>	
1-Methylnaphthalene	68	(41 - 115)	
	67	(41 - 115)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Semivolatiles

Client Lot #...: E1B160288      Work Order #: DV9G51AC      Matrix.....: SOLID  
LCS Lot-Sample#: E1B160000-422  
Prep Date.....: 02/16/01      Analysis Date...: 02/19/01  
Prep Batch #...: 1047422      Analysis Time...: 11:23  
Dilution Factor: 1      Instrument ID...: G01  
Analyst ID.....: 356074

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
TPH (as Diesel)	250	211	mg/kg	84	SW846 8015B
SURROGATE		PERCENT RECOVERY	RECOVERY LIMITS		
Benzo(a)pyrene		90	(60 - 130)		

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC/MS Volatiles

Client Lot #....: E1B160288      Work Order #:....: DWCH31AC      Matrix.....: SOLID  
 LCS Lot-Sample#: E1B190000-518  
 Prep Date.....: 02/16/01      Analysis Date...: 02/16/01  
 Prep Batch #....: 1050518      Analysis Time...: 17:39  
 Dilution Factor: 1      Instrument ID...: MSG  
 Analyst ID.....: 015590

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
1,1-Dichloroethene	50.0	59.2	ug/kg	118	SW846 8260B
Benzene	50.0	61.9	ug/kg	124	SW846 8260B
Trichloroethene	50.0	63.0	ug/kg	126	SW846 8260B
Toluene	50.0	51.5	ug/kg	103	SW846 8260B
Chlorobenzene	50.0	51.2	ug/kg	102	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Bromofluorobenzene	113	(70 - 130)
1,2-Dichloroethane-d4	84	(60 - 140)
Toluene-d8	95	(70 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## GC Volatiles

Client Lot #...: E1B160288      Work Order #...: DWDH61AC      Matrix.....: SOLID  
LCS Lot-Sample#: E1B200000-278  
Prep Date.....: 02/19/01      Analysis Date...: 02/19/01  
Prep Batch #...: 1051278      Analysis Time...: 10:26  
Dilution Factor: 1      Instrument ID...: G16  
Analyst ID.....: 001464

PARAMETER	SPIKE <u>AMOUNT</u>	MEASURED <u>AMOUNT</u>	UNITS	PERCENT RECOVERY	METHOD
TPH (as Gasoline)	5.00	4.91	mg/kg	98	SW846 8015B
SURROGATE		PERCENT RECOVERY		RECOVERY LIMITS	
a,a,a-Trifluorotoluene (TFT)		106		(60 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVR	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#:	E1B150000-471	Prep Batch #....:	1046471			
Mercury	0.833	0.827	mg/kg	99	SW846 7471A	02/16-02/17/01 DV7PT1AC
			Dilution Factor:	1		
			Analysis Time...:	10:32	Analyst ID.....: 021088	Instrument ID.: M04
LCS Lot-Sample#:	E1B160000-263	Prep Batch #....:	1047263			
Aluminum	200	192	mg/kg	96	SW846 6010B	02/16-02/19/01 DV8G41AV
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Arsenic	200	195	mg/kg	98	SW846 6010B	02/16-02/19/01 DV8G41AW
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Antimony	50.0	49.7	mg/kg	99	SW846 6010B	02/16-02/19/01 DV8G41AX
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Barium	200	203	mg/kg	101	SW846 6010B	02/16-02/19/01 DV8G41AO
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Cadmium	5.00	5.20	mg/kg	104	SW846 6010B	02/16-02/19/01 DV8G41A1
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Chromium	20.0	20.9	mg/kg	104	SW846 6010B	02/16-02/19/01 DV8G41A2
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Beryllium	5.00	5.25	mg/kg	105	SW846 6010B	02/16-02/19/01 DV8G41A3
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Lead	50.0	49.5	mg/kg	99	SW846 6010B	02/16-02/19/01 DV8G41A4
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01
Selenium	200	193	mg/kg	96	SW846 6010B	02/16-02/19/01 DV8G41A5
			Dilution Factor:	1		
			Analysis Time...:	17:06	Analyst ID.....: 003119	Instrument ID.: M01

(Continued on next page)

## LABORATORY CONTROL SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #...: E1B160288

Matrix.....: SOLID

PARAMETER	SPIKE	MEASURED	UNITS	PERCNT	METHOD	PREPARATION-	WORK	ORDER #
	AMOUNT	AMOUNT		RECVRY		ANALYSIS DATE		
Silver	5.00	4.97	mg/kg	99	SW846 6010B	02/16-02/19/01	DV8G41A6	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	50.0	52.1	mg/kg	104	SW846 6010B	02/16-02/19/01	DV8G41A7	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Copper	25.0	25.1	mg/kg	100	SW846 6010B	02/16-02/19/01	DV8G41A8	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Molybdenum	100	99.1	mg/kg	99	SW846 6010B	02/16-02/19/01	DV8G41A9	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Nickel	50.0	51.4	mg/kg	103	SW846 6010B	02/16-02/19/01	DV8G41CA	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Thallium	200	202	mg/kg	101	SW846 6010B	02/16-02/19/01	DV8G41CC	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Vanadium	50.0	50.8	mg/kg	102	SW846 6010B	02/16-02/19/01	DV8G41CD	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Zinc	50.0	50.7	mg/kg	101	SW846 6010B	02/16-02/19/01	DV8G41CE	
				Dilution Factor: 1				
				Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #...: E1B160288      Work Order #...: DV9G51AC      Matrix.....: SOLID  
LCS Lot-Sample#: E1B160000-422  
Prep Date.....: 02/16/01      Analysis Date...: 02/19/01  
Prep Batch #...: 1047422      Analysis Time...: 11:23  
Dilution Factor: 1      Instrument ID...: G01  
Analyst ID.....: 356074

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
TPH (as Diesel)	84	(60 - 130)	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
Benzo(a)pyrene	90	(60 - 130)	

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC/MS Volatiles

Client Lot #....: E1B160288      Work Order #....: DWCHB1AC      Matrix.....: SOLID  
LCS Lot-Sample#: E1B190000-518  
Prep Date.....: 02/16/01      Analysis Date...: 02/16/01  
Prep Batch #....: 1050518      Analysis Time...: 17:39  
Dilution Factor: 1      Instrument ID...: MSG  
Analyst ID.....: 015590

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
1,1-Dichloroethene	118	(60 - 150)	SW846 8260B
Benzene	124	(70 - 140)	SW846 8260B
Trichloroethene	126	(70 - 130)	SW846 8260B
Toluene	103	(70 - 130)	SW846 8260B
Chlorobenzene	102	(70 - 130)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	113	(70 - 130)
1,2-Dichloroethane-d4	84	(60 - 140)
Toluene-d8	95	(70 - 130)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #...: E1B160288      Work Order #: DWDH61AC      Matrix.....: SOLID  
LCS Lot-Sample#: E1B200000-278  
Prep Date.....: 02/19/01      Analysis Date...: 02/19/01  
Prep Batch #...: 1051278      Analysis Time...: 10:26  
Dilution Factor: 1      Instrument ID...: G16  
Analyst ID.....: 001464

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
TPH (as Gasoline)	98	(80 - 140)	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
a,a,a-Trifluorotoluene (TFT)	106	(60 - 130)	

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
LCS Lot-Sample#:	E1B150000-471	Prep Batch #....: 1046471			
Mercury	99	(85 - 115) SW846 7471A	Dilution Factor: 1	02/16-02/17/01 DV7PT1AC	
			Analysis Time...: 10:32	Analyst ID.....: 021088	Instrument ID...: M04
LCS Lot-Sample#:	E1B160000-263	Prep Batch #....: 1047263			
Aluminum	96	(80 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41AV	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Arsenic	98	(75 - 115) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41AW	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Antimony	99	(75 - 115) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41AX	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Barium	101	(80 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41A0	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Cadmium	104	(80 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41AI	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Chromium	104	(85 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41A2	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Beryllium	105	(80 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41A3	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Lead	99	(80 - 120) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41A4	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01
Selenium	96	(70 - 115) SW846 6010B	Dilution Factor: 1	02/16-02/19/01 DV8G41A5	
			Analysis Time...: 17:06	Analyst ID.....: 003119	Instrument ID...: M01

(Continued on next page)

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #....: ELB160288

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Silver	99	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41A6
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Cobalt	104	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41A7
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Copper	100	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41A8
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Molybdenum	99	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41A9
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Nickel	103	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41CA
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Thallium	101	(75 - 120)	SW846 6010B		02/16-02/19/01	DV8G41CC
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Vanadium	102	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41CD
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	
Zinc	101	(80 - 120)	SW846 6010B		02/16-02/19/01	DV8G41CE
		Dilution Factor: 1				
		Analysis Time...: 17:06		Analyst ID.....: 003119	Instrument ID...: M01	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

## MATRIX SPIKE SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/13/01 09:55 Date Received...: 02/14/01 17:00

PARAMETER	SAMPLE SPIKE MEASURED			PERCNT		METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
	AMOUNT	AMT	UNITS	RECVRY	RPD			
<b>MS Lot-Sample #:</b> E1B140272-002 <b>Prep Batch #:</b> 1046471								
Mercury	ND	0.167	0.183	mg/kg	110	SW846 7471A	02/16-02/17/01 DV5NN1C3	
	ND	0.167	0.172	mg/kg	103	6.6 SW846 7471A	02/16-02/17/01 DV5NN1C4	
				Dilution Factor: 1				
				Analysis Time...: 10:35		Instrument ID...: M04		Analyst ID.....: 021088
				MS Run #.....: 1046229				

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

## MATRIX SPIKE SAMPLE DATA REPORT

## GC/MS Volatiles

Client Lot #....: E1B160288      Work Order #....: DV7QD1AE-MS      Matrix.....: SOLID  
 MS Lot-Sample #: E1B150298-004      DV7QD1AF-MSD  
 Date Sampled...: 02/14/01 13:50      Date Received...: 02/15/01 17:05      MS Run #....: 1050291  
 Prep Date.....: 02/16/01      Analysis Date...: 02/16/01  
 Prep Batch #....: 1050518      Analysis Time...: 20:36  
 Dilution Factor: 1      Analyst ID....: 015590      Instrument ID...: MSG

<u>PARAMETER</u>	<u>SAMPLE SPIKE MEASRD</u>				<u>PERCENT</u>		
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
<b>1,1-Dichloroethene</b>	ND	50.0	51.6	ug/kg	103		<b>SW846 8260B</b>
	ND	50.0	51.2	ug/kg	102	0.68	<b>SW846 8260B</b>
<b>Benzene</b>	ND	50.0	56.7	ug/kg	113		<b>SW846 8260B</b>
	ND	50.0	55.6	ug/kg	111	2.0	<b>SW846 8260B</b>
<b>Trichloroethene</b>	ND	50.0	57.2	ug/kg	114		<b>SW846 8260B</b>
	ND	50.0	57.9	ug/kg	116	1.2	<b>SW846 8260B</b>
<b>Toluene</b>	ND	50.0	47.4	ug/kg	95		<b>SW846 8260B</b>
	ND	50.0	46.2	ug/kg	92	2.5	<b>SW846 8260B</b>
<b>Chlorobenzene</b>	ND	50.0	48.2	ug/kg	96		<b>SW846 8260B</b>
	ND	50.0	47.6	ug/kg	95	1.2	<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT</u>		<u>RECOVERY</u>	<u>LIMITS</u>
	<u>RECOVERY</u>			
<b>Bromofluorobenzene</b>	106		(70 - 130)	
	110		(70 - 130)	
<b>1,2-Dichloroethane-d4</b>	93		(60 - 140)	
	92		(60 - 140)	
<b>Toluene-d8</b>	95		(70 - 130)	
	95		(70 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## MATRIX SPIKE SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #...: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/14/01 15:25 Date Received...: 02/15/01 17:05

PARAMETER	SAMPLE SPIKE MEASURED			PERCNT			PREPARATION- ANALYSIS DATE	WORK ORDER #
	AMOUNT	AMT	UNITS	RECVRY	RPD	METHOD		
<b>MS Lot-Sample #: E1B150298-007 Prep Batch#...: 1047263</b>								
Aluminum								
	15200	200	15900 NC mg/kg			SW846 6010B	02/16-02/19/01 DV7QG1A1	
	15200	200	15700 NC mg/kg			SW846 6010B	02/16-02/19/01 DV7QG1A2	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					
Arsenic								
	3.0	200	187 mg/kg	92		SW846 6010B	02/16-02/19/01 DV7QG1A3	
	3.0	200	189 mg/kg	93	1.1	SW846 6010B	02/16-02/19/01 DV7QG1A4	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					
Antimony								
	ND	50.0	12.7 N mg/kg	25		SW846 6010B	02/16-02/19/01 DV7QG1A5	
	ND	50.0	11.3 N mg/kg	23	11	SW846 6010B	02/16-02/19/01 DV7QG1A6	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					
Barium								
	87.9	200	275 mg/kg	93		SW846 6010B	02/16-02/19/01 DV7QG1A7	
	87.9	200	281 mg/kg	96	2.2	SW846 6010B	02/16-02/19/01 DV7QG1A8	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					
Cadmium								
	0.31	5.00	5.24 mg/kg	98		SW846 6010B	02/16-02/19/01 DV7QG1A9	
	0.31	5.00	5.22 mg/kg	98	0.36	SW846 6010B	02/16-02/19/01 DV7QG1CA	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					
Chromium								
	23.5	20.0	43.4 mg/kg	99		SW846 6010B	02/16-02/19/01 DV7QG1CC	
	23.5	20.0	42.1 mg/kg	93	3.0	SW846 6010B	02/16-02/19/01 DV7QG1CD	
			Dilution Factor: 1					
			Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
			MS Run #.....: 1047116					

(Continued on next page)

## MATRIX SPIKE SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #....: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/14/01 15:25 Date Received...: 02/15/01 17:05

PARAMETER	SAMPLE	SPIKE	MEASURED	UNITS	PERCNT			PREPARATION-	WORK
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	METHOD		
<b>Beryllium</b>									
	0.48	5.00	5.40	mg/kg	98		SW846 6010B	02/16-02/19/01	DV7QG1CE
	0.48	5.00	5.43	mg/kg	99	0.55	SW846 6010B	02/16-02/19/01	DV7QG1CF
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Lead</b>									
	6.0	50.0	50.9	mg/kg	90		SW846 6010B	02/16-02/19/01	DV7QG1CG
	6.0	50.0	90.4 N,*	mg/kg	169	56	SW846 6010B	02/16-02/19/01	DV7QG1CH
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Selenium</b>									
	ND	200	181	mg/kg	91		SW846 6010B	02/16-02/19/01	DV7QG1CJ
	ND	200	184	mg/kg	92	1.3	SW846 6010B	02/16-02/19/01	DV7QG1CK
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Silver</b>									
	ND	5.00	4.55	mg/kg	91		SW846 6010B	02/16-02/19/01	DV7QG1CL
	ND	5.00	4.72	mg/kg	94	3.6	SW846 6010B	02/16-02/19/01	DV7QG1CM
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Cobalt</b>									
	6.6	50.0	55.3	mg/kg	97		SW846 6010B	02/16-02/19/01	DV7QG1CN
	6.6	50.0	55.8	mg/kg	98	0.93	SW846 6010B	02/16-02/19/01	DV7QG1CP
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Copper</b>									
	23.6	25.0	51.1	mg/kg	110		SW846 6010B	02/16-02/19/01	DV7QG1CQ
	23.6	25.0	41.1 N	mg/kg	70	22	SW846 6010B	02/16-02/19/01	DV7QG1CR
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								
<b>Molybdenum</b>									
	0.57	100	91.0	mg/kg	90		SW846 6010B	02/16-02/19/01	DV7QG1CT
	0.57	100	91.4	mg/kg	91	0.45	SW846 6010B	02/16-02/19/01	DV7QG1CU
	Dilution Factor: 1								
	Analysis Time...: 17:57				Instrument ID...: M01		Analyst ID.....: 003119		
	MS Run #.....: 1047116								

## MATRIX SPIKE SAMPLE DATA REPORT

## TOTAL Metals

Client Lot #...: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/14/01 15:25 Date Received...: 02/15/01 17:05

PARAMETER	SAMPLE SPIKE MEASURED			PERCNT			PREPARATION- ANALYSIS DATE	WORK ORDER #
	AMOUNT	AMT	AMOUNT	UNITS	RECVRY	RPD		
<b>Nickel</b>								
	13.4	50.0	61.6	mg/kg	96		SW846 6010B	02/16-02/19/01 DV7QG1CV
	13.4	50.0	61.1	mg/kg	95	0.83	SW846 6010B	02/16-02/19/01 DV7QG1CW
	Dilution Factor: 1							
	Analysis Time...: 17:57							
	Instrument ID...: M01							
	MS Run #....: 1047116							
<b>Thallium</b>								
	ND	200	191	mg/kg	96		SW846 6010B	02/16-02/19/01 DV7QG1CX
	ND	200	192	mg/kg	96	0.52	SW846 6010B	02/16-02/19/01 DV7QG1C0
	Dilution Factor: 1							
	Analysis Time...: 17:57							
	Instrument ID...: M01							
	MS Run #....: 1047116							
<b>Vanadium</b>								
	40.5	50.0	88.0	mg/kg	95		SW846 6010B	02/16-02/19/01 DV7QG1C1
	40.5	50.0	89.0	mg/kg	97	1.1	SW846 6010B	02/16-02/19/01 DV7QG1C2
	Dilution Factor: 1							
	Analysis Time...: 17:57							
	Instrument ID...: M01							
	MS Run #....: 1047116							
<b>Zinc</b>								
	44.3	50.0	96.5	mg/kg	104		SW846 6010B	02/16-02/19/01 DV7QG1C3
	44.3	50.0	89.6	mg/kg	90	7.4	SW846 6010B	02/16-02/19/01 DV7QG1C4
	Dilution Factor: 1							
	Analysis Time...: 17:57							
	Instrument ID...: M01							
	MS Run #....: 1047116							

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

N Spiked analyze recovery is outside stated control limits.

• Relative percent difference (RPD) is outside stated control limits.

## MATRIX SPIKE SAMPLE DATA REPORT

## GC Semivolatiles

Client Lot #...: E1B160288      Work Order #...: DV7Q41AE-MS      Matrix.....: SOLID  
 MS Lot-Sample #: E1B150298-022      DV7Q41AF-MSD  
 Date Sampled...: 02/15/01 09:55 Date Received.: 02/15/01 17:05 MS Run #.....: 1047232  
 Prep Date.....: 02/16/01 Analysis Date...: 02/19/01  
 Prep Batch #...: 1047422 Analysis Time..: 13:54  
 Dilution Factor: 1 Analyst ID ....: 356074      Instrument ID.: G01

<u>PARAMETER</u>	<u>SAMPLE</u>	<u>SPIKE</u>	<u>MEASRD</u>	<u>UNITS</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>		<u>mg/kg</u>			
TPH (as Diesel)	ND	250	190	mg/kg	76		6.7	SW846 8015B
	ND	250	204	mg/kg	81			

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Benzo (a) pyrene	79	(60 - 130)
	84	(60 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## MATRIX SPIKE SAMPLE DATA REPORT

## GC Volatiles

**Client Lot #....:** E1B160288      **Work Order #....:** DV7RD1AE-MS      **Matrix.....:** SOLID  
**MS Lot-Sample #:** E1B150298-028      DV7RD1AF-MSD  
**Date Sampled....:** 02/15/01 12:25      **Date Received..:** 02/15/01 17:05      **MS Run #.....:** 1051151  
**Prep Date.....:** 02/19/01      **Analysis Date...:** 02/19/01  
**Prep Batch #....:** 1051278      **Analysis Time..:** 16:08  
**Dilution Factor:** 1      **Analyst ID.....:** 001464      **Instrument ID..:** G16

<u>PARAMETER</u>	<u>SAMPLE SPIKE MEASRD</u>				<u>PERCENT</u>		
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
<b>TPH (as Gasoline)</b>	ND	5.00	5.43	mg/kg	109		SW846 8015B
	ND	5.00	5.30	mg/kg	106	2.4	SW846 8015B
<u>SURROGATE</u>				<u>PERCENT</u>	<u>RECOVERY</u>		
<b>a,a,a-Trifluorotoluene</b>				<u>RECOVERY</u>	<u>LIMITS</u>		
(TFT)				122	(60 - 130)		
				114	(60 - 130)		

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

**MATRIX SPIKE SAMPLE EVALUATION REPORT****TOTAL Metals**

Client Lot #...: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/13/01 09:55 Date Received.: 02/14/01 17:00

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #:	E1B140272-002	Prep Batch #...:	1046471				
Mercury	110	(80 - 120)			SW846 7471A	02/16-02/17/01	DVSNN1C3
	103	(80 - 120)	6.6	(0-20)	SW846 7471A	02/16-02/17/01	DVSNN1C4
			Dilution Factor:	1			
			Analysis Time...:	10:35	Instrument ID...:	M04	Analyst ID....: 021088
			MS Run #.....:	1046229			

**NOTE(S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

## MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC/MS Volatiles

Client Lot #....: E1B160288      Work Order #....: DV7QD1AE-MS      Matrix.....: SOLID  
 MS Lot-Sample #: E1B150298-004      DV7QD1AF-MSD  
 Date Sampled...: 02/14/01 13:50      Date Received...: 02/15/01 17:05      MS Run #.....: 1050291  
 Prep Date.....: 02/16/01      Analysis Date...: 02/16/01  
 Prep Batch #....: 1050518      Analysis Time...: 20:36  
 Dilution Factor: 1      Analyst ID....: 015590      Instrument ID...: MSG

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>			
<b>1,1-Dichloroethene</b>	103	(60 - 150)	0.68	(0-30)	<b>SW846 8260B</b>
	102	(60 - 150)			<b>SW846 8260B</b>
<b>Benzene</b>	113	(70 - 140)	2.0	(0-30)	<b>SW846 8260B</b>
	111	(70 - 140)			<b>SW846 8260B</b>
<b>Trichloroethene</b>	114	(70 - 130)	1.2	(0-30)	<b>SW846 8260B</b>
	116	(70 - 130)			<b>SW846 8260B</b>
<b>Toluene</b>	95	(70 - 130)	2.5	(0-30)	<b>SW846 8260B</b>
	92	(70 - 130)			<b>SW846 8260B</b>
<b>Chlorobenzene</b>	96	(70 - 130)	1.2	(0-30)	<b>SW846 8260B</b>
	95	(70 - 130)			<b>SW846 8260B</b>

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>LIMITS</u>
Bromofluorobenzene	106	(70 - 130)	(70 - 130)
	110	(70 - 130)	(70 - 130)
1,2-Dichloroethane-d4	93	(60 - 140)	(60 - 140)
	92	(60 - 140)	(60 - 140)
Toluene-d8	95	(70 - 130)	(70 - 130)
	95	(70 - 130)	(70 - 130)

**NOTE (S) :**

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Bold** print denotes control parameters

## MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: E1B160288

Matrix.....: SOLID

Date Sampled...: 02/14/01 15:25 Date Received..: 02/15/01 17:05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-ANALYSIS DATE</u>	<u>WORK ORDER #</u>
<b>MS Lot-Sample #: E1B150298-007 Prep Batch #...: 1047263</b>							
Aluminum	NC	(80 - 120)			SW846 6010B	02/16-02/19/01 DV7QG1A1	
	NC	(80 - 120)	(0-25)		SW846 6010B	02/16-02/19/01 DV7QG1A2	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Arsenic	92	(75 - 115)			SW846 6010B	02/16-02/19/01 DV7QG1A3	
	93	(75 - 115) 1.1 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1A4	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Antimony	25 N	(75 - 115)			SW846 6010B	02/16-02/19/01 DV7QG1A5	
	23 N	(75 - 115) 11 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1A6	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Barium	93	(80 - 120)			SW846 6010B	02/16-02/19/01 DV7QG1A7	
	96	(80 - 120) 2.2 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1A8	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Cadmium	98	(80 - 120)			SW846 6010B	02/16-02/19/01 DV7QG1A9	
	98	(80 - 120) 0.36 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1CA	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Chromium	99	(85 - 120)			SW846 6010B	02/16-02/19/01 DV7QG1CC	
	93	(85 - 120) 3.0 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1CD	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					
Beryllium	98	(80 - 120)			SW846 6010B	02/16-02/19/01 DV7QG1CE	
	99	(80 - 120) 0.55 (0-25)			SW846 6010B	02/16-02/19/01 DV7QG1CF	
		Dilution Factor: 1					
		Analysis Time...: 17:57			Instrument ID...: M01		Analyst ID.....: 003119
		MS Run #.....: 1047116					

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## MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #....: ELB160288

Matrix.....: SOLID

Date Sampled...: 02/14/01 15:25 Date Received..: 02/15/01 17:05

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Lead	90	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CG
	169 N, *	(80 - 120)	56	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CH
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Selenium	91	(70 - 115)			SW846 6010B	02/16-02/19/01	DV7QG1CJ
	92	(70 - 115)	1.3	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CK
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Silver	91	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CL
	94	(80 - 120)	3.6	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CM
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Cobalt	97	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CN
	98	(80 - 120)	0.93	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CP
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Copper	110	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CQ
	70 N	(80 - 120)	22	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CR
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Molybdenum	90	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CT
	91	(80 - 120)	0.45	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CU
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Nickel	96	(80 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CV
	95	(80 - 120)	0.83	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CW
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		
Thallium	96	(75 - 120)			SW846 6010B	02/16-02/19/01	DV7QG1CX
	96	(75 - 120)	0.52	(0-25)	SW846 6010B	02/16-02/19/01	DV7QG1CO
					Dilution Factor: 1		
					Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
					MS Run #.....: 1047116		

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## MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: E1B160288

Date Sampled...: 02/14/01 15:25 Date Received..: 02/15/01 17:05

Matrix.....: SOLID

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
	<u>RECOVERY</u>	<u>LIMITS</u>	<u>RPD</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Vanadium	95	(80 - 120)		SW846 6010B	02/16-02/19/01	DV7QG1C1
	97	(80 - 120)	1.1 (0-2\$)	SW846 6010B	02/16-02/19/01	DV7QG1C2
			Dilution Factor: 1			
				Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
				MS Run #.....: 1047116		
Zinc	104	(80 - 120)		SW846 6010B	02/16-02/19/01	DV7QG1C3
	90	(80 - 120)	7.4 (0-25)	SW846 6010B	02/16-02/19/01	DV7QG1C4
			Dilution Factor: 1			
				Analysis Time...: 17:57	Instrument ID...: M01	Analyst ID.....: 003119
				MS Run #.....: 1047116		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

N Spiked analyte recovery is outside stated control limits.

• Relative percent difference (RPD) is outside stated control limits.

## MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #: E1B160288 Work Order #: DV7Q41AE-MS Matrix.....: SOLID  
MS Lot-Sample #: E1B150298-022 DV7Q41AF-MSD  
Date Sampled...: 02/15/01 09:55 Date Received...: 02/15/01 17:05 MS Run #:.....: 1047232  
Prep Date.....: 02/16/01 Analysis Date...: 02/19/01  
Prep Batch #:....: 1047422 Analysis Time...: 13:54  
Dilution Factor: 1 Analyst ID....: 356074 Instrument ID...: G01

PARAMETER	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	RPD <u>LIMITS</u>	METHOD
TPH (as Diesel)	76	(60 - 130)			SW846 8015B
	81	(60 - 130)	6.7	(0-35)	SW846 8015B

SURROGATE	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>
Benzo (a) pyrene	79	(60 - 130)
	84	(60 - 130)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

## MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Volatiles

Client Lot #....: E1B160288 Work Order #....: DV7RD1AE-MS Matrix.....: SOLID  
MS Lot-Sample #: E1B150298-028 DV7RD1AF-MSD  
Date Sampled...: 02/15/01 12:25 Date Received...: 02/15/01 17:05 MS Run #.....: 1051151  
Prep Date.....: 02/19/01 Analysis Date...: 02/19/01  
Prep Batch #....: 1051278 Analysis Time...: 16:08  
Dilution Factor: 1 Analyst ID....: 001464 Instrument ID...: G16

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>RPD</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>		<u>LIMITS</u>	
<b>TPH (as Gasoline)</b>	<b>109</b>	(80 - 140)			<b>SW846 8015B</b>
	<b>106</b>	(80 - 140)	2.4	(0-40)	<b>SW846 8015B</b>
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>RECOVERY</u>	<u>LIMITS</u>		<u>LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	122			(60 - 130)	
	114			(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters